## REMARKS

Claims 1-3, 5, 8, 11, 13, 14, 16 and 21-24 have been amended and claims 6, 7 and 15 have been canceled. Claims 1-5, 8-14 and 16-26 remain in the application. The amendments are supported by the filed specification and drawings.

The Examiner rejected independent claim 11 as being anticipated by Capofreddi.

Independent claim 11 has been amended to more particularly point out and distinctly claim the subject matter which Applicant regards as his invention. Amended claim 11 is repeated below without its editing marks to facilitate these remarks.

11. A digital filter that filters an input data stream which provides data elements at a system rate $F_S$, the filter comprising;

 a converter that converts successive strings of M successive data elements in said input data stream to M parallel data elements that occur at a substream rate $F_S/M$ in M data substreams; and

 a data processor programmed to generate, at said substream rate $F_S/M$, M convolutions of a quantized impulse response with said M data substreams.

It is noted that claim 11:

a) is directed to a filter that filters "an input data stream" ,

b) recites a converter that converts strings of data elements to parallel data elements,

c) recites a data processor; and

d) recites that the data processor generates convolutions of a quantized impulse response with data substreams.

In contrast to these limitations of Applicant's claim 11, **Capofreddi** teaches filters in which:

a) "outputs --- are produced as functions of an analog input signal designated x(t) --- filter 500 samples the value x(t) on a repeating, periodic basis" (column 4, lines 60-63);

b) "sample values --- are produced by a sampling network --- the sampling network includes a series of sample and hold circuits", (column 5, lines 14-28);

c) "each parallel path includes a series of sample and hold circuits" (column 5, lines 27-18); and

d) "each output y is generated by multiplying n samples of the input signal x(t) by respective coefficients" (column 5, lines 1-2).

Because of the contrasts noted above, it is apparent that Capofreddi:

a) <u>fails to address</u> a filter that filters a data stream and, instead, addresses filters that sample an analog signal (note that claim 11 is not directed to sampling nor to analog signals),

b) <u>fails to address</u> converters that operate on strings of data elements (instead, teaches operations on samples),

c) <u>fails to teach</u> the use of a digital processor (instead, teaches use of sample and hold circuits), and

d) <u>fails to teach</u> convolutions of quantized impulse response with data substreams (teaches instead operations concerning analog signal samples and non-quantized coefficients).

It is further noted that Capofreddi states, "each stage in the sample and hold pipeline chain adds noise and distortion — the noise and distortion accumulate as the signal progresses along the pipeline" (column 6, lines 29-42). Because the structures and methods of Applicant's claims do not include sample and hold circuits, Applicant's digital filters <u>do not follow</u> the teachings of Capofreddi and, accordingly, they avoid the addition of noise and distortion that are inherent in Capofreddi's filters.

Because he does not teach limitations of Applicant's claim 11, Capofreddi cannot anticipate claim 11 nor contribute to a *prima facie* case of obviousness with respect to this claim. Accordingly, claim 11 patentably distinguishes over the cited reference. Because they add further limitations to claim 11, claims 12-14 and 16-20 also patentably distinguish over the cited reference.

Independent claim 1 recites processes (e.g., converting and generating) that concern data elements. As is apparent from the discussion of his teachings (provided above relative to claim 11), Capofreddi <u>fails to teach</u> these processes. Because he does not teach processes of Applicant's claim 1, Capofreddi cannot anticipate claim 1 nor contribute to a *prima facie* case of obviousness with respect to this claim. Accordingly, claim 1 patentably distinguishes over the cited reference. Because they add further limitations to claim 1, claims 1-5 and 8-10 also patentably distinguish over the cited reference.

Independent claim 21 recites structures (e.g., converter and convolvers) that process data elements. As is apparent from the discussion of his teachings (provided above relative to claim 11), Capofreddi <u>fails to teach</u> these structures. Because he does not teach structures of Applicant's claim 21, Capofreddi cannot anticipate claim 21 nor contribute to a *prima facie* case of obviousness with respect to this claim. Accordingly, claim 21 patentably distinguishes over the cited reference. Because they add further limitations to claim 21, claims 22-26 also patentably distinguish over the cited reference.

Applicants therefore request reconsideration and withdrawal of the rejections and an early allowance of claims 1-5, 8-14 and 16-26.

Respectfully submitted,
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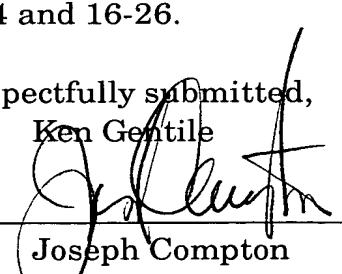
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